

This invention relates to a new member of a recently recognized TWIK potassium<sup>+</sup> channel family, herein identified as TASK. For TWIK-related acid-sensitive K<sup>+</sup> channel. This is the first cloned mammalian channel that produces K<sup>+</sup> currents that possesses all the characteristics of background conductances. The inventions also relates to various constructs including the TASK or related human potassium channel family, and their uses.